

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 09/490,064  
Source: 1600  
Date Processed by STIC: 03-17-2005

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1600

**RAW SEQUENCE LISTING**

DATE: 03/17/2005

PATENT APPLICATION: US/09/490,064

TIME: 12:08:53

Input Set : N:\Crf3\RULE60\09490064.raw.txt

Output Set: N:\CRF4\03172005\I490064.raw

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TECH CENTER 1600/2900

**SEQUENCE LISTING**

## 3 (1) GENERAL INFORMATION:

5 (i) APPLICANT: Knappik, Achim

6 Pack, Peter

7 Ilag, Vic

8 Ge, Liming

9 Moroney, Simon

10 Plueckthun, Andreas

13 (ii) TITLE OF INVENTION: Protein/(Poly)peptide libraries

15 (iii) NUMBER OF SEQUENCES: 373

17 (iv) CORRESPONDENCE ADDRESS:

18 (A) ADDRESSEE: James F. Haley, Jr., Esq. c/o Fish &amp; Neave

19 (B) STREET: 1251 Avenue of the Americas

20 (C) CITY: New York

21 (D) STATE: New York

22 (E) COUNTRY: USA

23 (F) ZIP: 10021

25 (v) COMPUTER READABLE FORM:

26 (A) MEDIUM TYPE: Floppy disk

27 (B) COMPUTER: IBM PC compatible

28 (C) OPERATING SYSTEM: PC-DOS/MS-DOS

29 (D) SOFTWARE: PatentIn Release #1.0, Version #1.30 (EPO)

31 (vi) CURRENT APPLICATION DATA:

C--&gt; 32 (A) APPLICATION NUMBER: US/09/490,064

C--&gt; 33 (B) FILING DATE: 24-Jan-2000

35 (vii) PRIOR APPLICATION DATA:

W--&gt; 36 (A) APPLICATION NUMBER: US/09/025,769

37 (B) FILING DATE: 18-FEB-1998

W--&gt; 38 (A) APPLICATION NUMBER: EP 95 11 3021.0

39 (B) FILING DATE: 18-AUG-1995

41 (viii) ATTORNEY/AGENT INFORMATION:

42 (A) NAME: James F. Haley, Jr., Esq.

43 (B) REGISTRATION NUMBER: 27,794

44 (C) REFERENCE/DOCKET NUMBER: MORPHO/5

46 (ix) TELECOMMUNICATION INFORMATION:

47 (A) TELEPHONE: (212)596-9000

48 (B) TELEFAX: (212)596-9090

50 (2) INFORMATION FOR SEQ ID NO: 1:

52 (i) SEQUENCE CHARACTERISTICS:

53 (A) LENGTH: 20 amino acids

54 (B) TYPE: amino acid

55 (C) STRANDEDNESS:

56 (D) TOPOLOGY: linear

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58      (ii) MOLECULE TYPE: protein
63      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:
65      Ala Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
66      1          5          10          15
68      Gly Gly Gly Ser
69      20
71 (2) INFORMATION FOR SEQ ID NO: 2:
73      (i) SEQUENCE CHARACTERISTICS:
74          (A) LENGTH: 82 base pairs
75          (B) TYPE: nucleic acid
76          (C) STRANDEDNESS: single
77          (D) TOPOLOGY: linear
79      (ii) MOLECULE TYPE: other nucleic acid
80          (A) DESCRIPTION: /desc = "synthetic oligonucleotide"
85      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:
87 TCAGCGGGTG GCGGTTCTGG CGGCGGTGGG AGCGGTGGCG GTGTTCTGG CGGTGGTGGT      60
89 TCCGATATCG GTCCACGTAC GG      82
91 (2) INFORMATION FOR SEQ ID NO: 3:
93      (i) SEQUENCE CHARACTERISTICS:
94          (A) LENGTH: 83 base pairs
95          (B) TYPE: nucleic acid
96          (C) STRANDEDNESS: single
97          (D) TOPOLOGY: linear
99      (ii) MOLECULE TYPE: other nucleic acid
100          (A) DESCRIPTION: /desc = "synthetic oligonucleotide"
105      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:
107 AATTCCGTAC GTGGACCGAT ATCGGAACCA CCACCGCCAG AACCACCGCC ACCGCTCCCA      60
109 CCGCCGCCAG AACC GCCACC CGC      83
111 (2) INFORMATION FOR SEQ ID NO: 4:
113      (i) SEQUENCE CHARACTERISTICS:
114          (A) LENGTH: 69 base pairs
115          (B) TYPE: nucleic acid
116          (C) STRANDEDNESS: single
117          (D) TOPOLOGY: linear
119      (ii) MOLECULE TYPE: other nucleic acid
120          (A) DESCRIPTION: /desc = "synthetic oligonucleotide
W--> 121                      library"
124      (ix) FEATURE:
125          (A) NAME/KEY: misc_feature
126          (B) LOCATION:28..45
127          (D) OTHER INFORMATION:/product= "6 random codons by
128 trinucleotide mutagenesis (19aa, no Cys)"
131      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:
133 GATACGGCCG TGTATTATTG CGCGCGTNNK NNNNNNNNNK NNNKNGATTA TTGGGGCCAA      60
135 GGCACCCTG      69
137 (2) INFORMATION FOR SEQ ID NO: 5:
139      (i) SEQUENCE CHARACTERISTICS:
140          (A) LENGTH: 84 base pairs
141          (B) TYPE: nucleic acid

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142         (C) STRANDEDNESS: single
143         (D) TOPOLOGY: linear
145     (ii) MOLECULE TYPE: other nucleic acid
146         (A) DESCRIPTION: /desc = "synthetic oligonucleotide
W--> 147             library"
150     (ix) FEATURE:
151         (A) NAME/KEY: misc_feature
152         (B) LOCATION:28..57
153         (D) OTHER INFORMATION:/product= "10 random codons by
154 trinucleotide mutagenesis (19aa, no Cys)"
156     (ix) FEATURE:
157         (A) NAME/KEY: misc_feature
158         (B) LOCATION:58..60
159         (D) OTHER INFORMATION:/product= "random codon by
160 trinucleotide mutagenesis (TTT/ATG)"
162     (ix) FEATURE:
163         (A) NAME/KEY: misc_feature
164         (B) LOCATION:64..66
165         (D) OTHER INFORMATION:/product= "random codon by
166 trinucleotide mutagenesis (GTT/TAT)"
169     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:
171 GATACGGCCG TGTATTATTG CGCGCGTNNK NNNNNNNNNK NNNNNNNNNK KNNNNNNKWK 60
173 GATKWTGTTGGG GCCAAGGCAC CCTG 84
175 (2) INFORMATION FOR SEQ ID NO: 6:
177     (i) SEQUENCE CHARACTERISTICS:
178         (A) LENGTH: 21 base pairs
179         (B) TYPE: nucleic acid
180         (C) STRANDEDNESS: single
181         (D) TOPOLOGY: linear
183     (ii) MOLECULE TYPE: other nucleic acid
184         (A) DESCRIPTION: /desc = "synthetic oligonucleotide"
189     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:
191 GATACGGCCG TGTATTATTG C 21
193 (2) INFORMATION FOR SEQ ID NO: 7:
195     (i) SEQUENCE CHARACTERISTICS:
196         (A) LENGTH: 17 base pairs
197         (B) TYPE: nucleic acid
198         (C) STRANDEDNESS: single
199         (D) TOPOLOGY: linear
201     (ii) MOLECULE TYPE: other nucleic acid
202         (A) DESCRIPTION: /desc = "synthetic oligonucleotide"
207     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:
209 CAGGGTGCCT TGGCCCC 17
211 (2) INFORMATION FOR SEQ ID NO: 8:
213     (i) SEQUENCE CHARACTERISTICS:
214         (A) LENGTH: 17 base pairs
215         (B) TYPE: nucleic acid
216         (C) STRANDEDNESS: single
217         (D) TOPOLOGY: linear

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219      (ii) MOLECULE TYPE: other nucleic acid
220          (A) DESCRIPTION: /desc = "synthetic oligonucleotide"
225      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:
227 GCAGAAGGCG AACGTCC
229 (2) INFORMATION FOR SEQ ID NO: 9:
231      (i) SEQUENCE CHARACTERISTICS:
232          (A) LENGTH: 80 base pairs
233          (B) TYPE: nucleic acid
234          (C) STRANDEDNESS: single
235          (D) TOPOLOGY: linear
237      (ii) MOLECULE TYPE: other nucleic acid
238          (A) DESCRIPTION: /desc = "synthetic oligonucleotide
W--> 239              library"
242      (ix) FEATURE:
243          (A) NAME/KEY: misc_feature
244          (B) LOCATION:39..41
245          (D) OTHER INFORMATION:/product= "random codon (mixture of
246 GCT, CGT, CAT, TCT, TAT)"
248      (ix) FEATURE:
249          (A) NAME/KEY: misc_feature
250          (B) LOCATION:42..53
251          (D) OTHER INFORMATION:/product= "random codons by
252 trinucleotide mutagenesis (19 aa, no Cys)"
254      (ix) FEATURE:
255          (A) NAME/KEY: misc_feature
256          (B) LOCATION:57..59
257          (D) OTHER INFORMATION:/product= "random codon by
258 trinucleotide mutagenesis (19 aa, no Cys)"
261      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:
263 TGGAAGCTGA AGACGTGGGC GTGTATTATT GCCAGCAGBV TNNKNNKNNK NKKCCGNNKT
265 TTGGCCAGGG TACGAAAGTT
267 (2) INFORMATION FOR SEQ ID NO: 10:
269      (i) SEQUENCE CHARACTERISTICS:
270          (A) LENGTH: 18 base pairs
271          (B) TYPE: nucleic acid
272          (C) STRANDEDNESS: single
273          (D) TOPOLOGY: linear
275      (ii) MOLECULE TYPE: other nucleic acid
276          (A) DESCRIPTION: /desc = "synthetic oligonucleotide"
281      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10:
283 AACTTTCGTA CCCTGGCC
285 (2) INFORMATION FOR SEQ ID NO: 11:
287      (i) SEQUENCE CHARACTERISTICS:
288          (A) LENGTH: 108 base pairs
289          (B) TYPE: nucleic acid
290          (C) STRANDEDNESS: single
291          (D) TOPOLOGY: linear
293      (ii) MOLECULE TYPE: other nucleic acid
294          (A) DESCRIPTION: /desc = "synthetic oligonucleotide

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W--> 295                                library"
298      (ix) FEATURE:
299          (A) NAME/KEY: misc_feature
300          (B) LOCATION:21..23
301          (D) OTHER INFORMATION:/product= "random codon by
302 trinucleotide mutagenesis (19aa, no Cys)"
304      (ix) FEATURE:
305          (A) NAME/KEY: misc_feature
306          (B) LOCATION:27..35
307          (D) OTHER INFORMATION:/product= "random codons by
308 trinucleotide mutagenesis (19 aa, no Cys)"
310      (ix) FEATURE:
311          (A) NAME/KEY: misc_feature
312          (B) LOCATION:36..41
313          (D) OTHER INFORMATION:/product= "random codons by mixed
314 monomers (A/G A/C/G T)"
316      (ix) FEATURE:
317          (A) NAME/KEY: misc_feature
318          (B) LOCATION:42..44
319          (D) OTHER INFORMATION:/product= "random codon by
320 trinucleotide mutagenesis (19aa, no Cys)"
322      (ix) FEATURE:
323          (A) NAME/KEY: misc_feature
324          (B) LOCATION:48..50
325          (D) OTHER INFORMATION:/product= "random codon by
326 trinucleotide mutagenesis (19aa, no Cys)"
329      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:
331 AGGGTCTCGA GTGGGTGAGC NNKATTNNKN NKNKRVTRV TMNKACCMNK TATGCGGATA      60
333 GCGTGAAAGG CCGTTTTACC ATTTACGTG ATAATTCGAA AAACACCA      108
335 (2) INFORMATION FOR SEQ ID NO: 12:
337      (i) SEQUENCE CHARACTERISTICS:
338          (A) LENGTH: 105 base pairs
339          (B) TYPE: nucleic acid
340          (C) STRANDEDNESS: single
341          (D) TOPOLOGY: linear
343      (ii) MOLECULE TYPE: other nucleic acid
344          (A) DESCRIPTION: /desc = "synthetic oligonucleotide
W--> 345                                library"
348      (ix) FEATURE:
349          (A) NAME/KEY: misc_feature
350          (B) LOCATION:21..23
351          (D) OTHER INFORMATION:/product= "random codon by
352 trinucleotide mutagenesis (19aa, no Cys)"
354      (ix) FEATURE:
355          (A) NAME/KEY: misc_feature
356          (B) LOCATION:27..32
357          (D) OTHER INFORMATION:/product= "random codons by
358 trinucleotide mutagenesis (19aa, no Cys)"
360      (ix) FEATURE:

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## VERIFICATION SUMMARY

DATE: 03/17/2005

PATENT APPLICATION: US/09/490,064

TIME: 12:08:54

Input Set : N:\CrF3\RULE60\09490064.raw.txt

Output Set: N:\CRF4\03172005\I490064.raw

L:32 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]  
L:33 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]  
L:38 M:238 W: Alpha Fields not Ordered, Reordered [(A) APPLICATION NUMBER:] of (1) (vii)  
L:1569 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:44  
L:1573 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:44  
L:1577 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:44  
L:1581 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:44  
L:1585 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:44  
L:1589 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:44  
L:1593 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:44  
L:1656 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:46  
L:1660 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:46  
L:1664 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:46  
L:1668 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:46  
L:1672 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:46  
L:1676 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:46  
L:1680 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:46  
L:1736 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:48  
L:1740 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:48  
L:1744 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:48  
L:1748 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:48  
L:1752 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:48  
L:1756 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:48  
L:1760 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:48  
L:1764 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:48  
L:1823 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:50  
L:1827 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:50  
L:1831 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:50  
L:1835 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:50  
L:1839 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:50  
L:1843 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:50  
L:1847 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:50  
L:1903 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:52  
L:1907 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:52  
L:1911 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:52  
L:1915 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:52  
L:1919 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:52  
L:1923 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:52  
L:1927 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:52  
L:1983 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:54  
L:1987 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:54  
L:1991 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:54  
L:1995 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:54  
L:1999 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:54  
L:2003 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:54  
L:2007 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:54  
L:2063 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:56  
L:2067 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:56

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Input Set : N:\Crf3\RULE60\09490064.raw.txt

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L:2071 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:56  
L:2075 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:56  
L:2079 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:56  
L:2083 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:56  
L:2087 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:56  
L:2091 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:56